



PATENT

UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: WEBER M ET AL 4  
SERIAL NO: 10/690,415  
FILED: October 21, 2003 GROUP: 1765  
TITLE: PROCESS FOR PRODUCING A SILICON CRYSTAL WHICH IS  
DOPED WITH HIGHLY VOLATILE FOREIGN SUBSTANCE

SUBMISSION OF INFORMATION DISCLOSURE STATEMENT  
OF DR. WOLFGANG STAUDACHER

Mail Stop: Non-fee Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Applicants wish to bring to the attention of the Patent Examiner the attached Information Disclosure Statement, duly signed by Dr. Wolfgang Staudacher, and the 9 references listed on the enclosed Form PTO-1449 and attached thereto. These references were cited in the Office Action of the German Patent and Trademark Office.

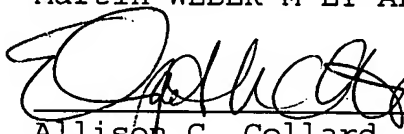
It is respectfully requested that the foregoing Information Disclosure Statement be incorporated into the official file of the present patent application.

Since this Information Disclosure Statement is being filed prior to a first Office Action, it is believed that no fee is due. However, if it is determined that a fee is due, the

Commissioner is hereby authorized to charge, or to credit any over payment, to our Deposit Account Number 03-2468.

It is respectfully requested that this Information Disclosure Statement be considered and placed into the application file.

Respectfully submitted,  
Martin WEBER M ET AL 4



Allison C. Collard, Reg. No. 22,532  
Edward R. Freedman, Reg. No. 26,048  
Elizabeth C. Richter, Reg. No. 35,103  
Attorneys for Applicants

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1077 Northern Boulevard  
Roslyn, New York 11576  
(516) 365-9802

Enclosures: 1) IDS of Dr. Wolfgang Staudacher  
2) PTO-form 1449 w/copies of 9 references

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: COMMISSIONER OF PATENTS, P.O. Box 1450, Alexandria, VA 22313-1450 on MARCH 17, 2004.



Maria Guastella



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of.

WEBER, M. ET AL.-4

Serial Number: 10/690,415

Group Art Unit: 1765

Filed: OCT. 21, 2003

For: PROCESS FOR PRODUCING A SILICON SINGLE CRYSTAL WHICH IS  
DOPED WITH HIGHLY VOLATILE FOREIGN SUBSTANCES

Information Disclosure Statement

Honorable Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir or Madam:

I, Wolfgang Staudacher, associated with the preparation and prosecution of the above-identified application, residing at Seebauerstraße 4, 81735 München, Germany, wish to call the attention of the Patent Examiner to the references enumerated on the enclosed PTO Form-1449.

I believe the documents enumerated on the enclosed Form PTO-1449 and attached thereto, are cited in the enclosed application and the Office Action of the German Patent and Trademark Office and may be material to the examination of the application.

Therefore, it is respectfully requested that the foregoing Information Disclosure Statement be considered by the Examiner and incorporated into the file of this application.

I wish to comment as follows concerning the prior art references enumerated on PTO Form-1449:

A. Trainor et P. T. Harris: "The Control of Resistivity in Pulled Silicon Crystals", Proceedings of the Physical Society, London (1959), 74 (P. 5; No 479), page 669-670 is already in English language.

E. Schöne: "Über den Einfluß des Abdampfens bei Dotierungen von Kristallen (Siliziumeinkristallen) nach dem Zonenfloating- und Czochralski-Verfahren", IHT-Mitteilungen I (3), 1962, pg. 46 - 49 is only available in German language. The document deals with the pulling of silicon single crystals according to the float zone technology and the Czochralski method, respectively. The behavior of the evaporation of dopants is investigated and demonstrated with theoretical calculations.

For DE 0001 644 009 an English Derwent Abstract is enclosed.

WO 86/03523 is already in English language.

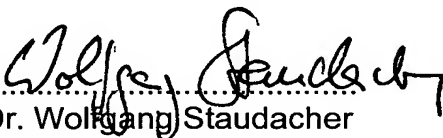
Z. Liu et T. Carlberg: "A model for Dopant Concentration in Czochralski Silicon Melts", J. Electrochem. Soc., Vol. 140, No. 7, July 1993 is already in English language.

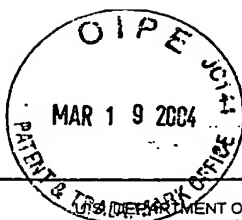
W. Zulehner et D. Huber: "Czochralski-Grown Silicon", pg. 26-38 is already in English language.

T. Izumi: "Model analysis of segregation phenomena for silicon single crystal growth from the melt", Journal of Crystal Growth 181 (1997), pg. 210-217 is already in English language.

ASTM: Designation: F 723 - 99: "Standard Practice for Conversion Between Resistivity and Dopant Density for Boron-Doped, Phosphorus-Doped, and Arsenic-Doped Silicon", pg. 1-17 is already in English language.

Signed this 14<sup>th</sup> day of November, 2003.

  
.....  
Dr. Wolfgang Staudacher

FORM PTO-1449  
(REV. 7-80)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO. : ST 10224SERIAL NO. 10/690,415APPLICANT : WEBER, M. ET AL. - 4FILING DATE: 10/21/2003GROUP: 1765

## LIST OF REFERENCES CITED BY APPLICANT

(Use several sheets if necessary)

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA						
	AB						
	AC						
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	AG						
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	AJ						
	AK						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	AL	<u>1644009</u>	<u>9/24/1970</u>	<u>Germany</u>				
	AM	<u>WO 86/03523</u>	<u>6/19/1986</u>	<u>PCT</u>				
	AN							
	AO							
	AP							

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

	AR		<u>English Derwent Abstract AN 1975-69034 W</u>
			<u>corresponding to DE 000 1644009</u>
	AS		<u>A. Traimor et P.T. Harris: "The control of Resistivity</u>
			<u>in Pulled Si Crystals", Proc. of Phys. Soc, London (1959), 74</u>
	AT		<u>E. Schöne: "Über den Einfluß ..." (P.S.; No 479), p. 669-670.</u>
			<u>IHT-Mitteilungen I(3), 1962, pg. 46-49.</u>

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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	AR		<u>Z. Liu et T. Carlberg: "A model for Dopant Conc. in C2-</u>
			<u>Silicon Melts", J. Electrochem. Soc., Vol. 140, No. 7, July 1993</u>
	AS		<u>W. Zulehner et D. Huber: "Czochralski-Grown Silicon",</u>
			<u>p. 26-38.</u>
	AT		<u>T. Izumi: "Model analysis of segregation phenomena ..."</u>
			<u>J. of Crystal Growth 181 (1997), pg. 210-217.</u>

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(REV. 7-80)

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	AN							
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	AP							

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

	AR		ASTM: Designation: F723-99: "Standard Practice for Conversion..." pg. 1-17.
	AS		
	AT		

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